Audit Follow Up

As of March 31, 2006

CITY OF TALLAHASSEE
OFFICE OF THE CITY AUDITOR

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Inquiry into The February 2005 Network Computer Virus

(Report #0523, Issued June 3, 2005)

Report #0616 ***May 26, 2006***

Summary

This is the first follow up on the previously issued audit report #0523, Inquiry into The February 2005 Network Computer Virus. The City's Information System Services (ISS) has completed three of the five action plan steps due as of March 31, 2006, and amended the completion date of the two remaining items. The steps completed include:

- the identification of City employees, outside ISS, with the skills needed that can be utilized to augment ISS staff during emergencies;
- the development of an alternative means of disseminating information to employees when e-mail is unavailable; and
- the development and implementation of plans to increase the awareness of the importance of personal computer (PC) security.

The two outstanding items, due this period, relate to the identification, testing, and installation of operating system and application security updates. In addition, ISS amended the due date of the final outstanding action plan (originally due June 30, 2006) to March 31, 2007. This step is related to the segmentation of the City's computer network.

Scope, Objectives, and Methodology

The audit and this subsequent follow up were conducted in accordance with Generally Accepted Government Auditing Standards and Standards for the Professional Practice of Internal Auditing.

Report #0523

On February 14, 2005, the City noted that its computer network was not functioning properly. What was first believed to be a network hardware malfunction, was subsequently determined to be a computer virus that had infected the City network.

The scope of report #0523 included a review of activities performed by ISS during the period February 14, 2005, through March 31, 2005, and other departments during the period February 14 - 25, 2005, to address the virus infection. The objective of the report was to answer the following questions:

1. How was the virus detected, identified, and eradicated?
2. What were the impacts of the virus to the City (i.e., financial, customer service, data integrity)?
3. How was the City infected with the virus?
4. Was the infection preventable?
5. What are the lessons learned from this experience?

The audit concluded that virus infections are common occurrences for everyone and every business that has computers, networks, and internet connectivity. The key is to have preventative measures in place to minimize the impact of an infection and have adequate plans in place to reestablish business operations quickly.

City departments learned many lessons during the virus infection. ISS management identified areas that needed to be addressed. Additionally, recommendations were made toward reducing the impact of future virus infections and expediting departments' reestablishment of business operations.

Report #0616

This is the first follow up on the progress and efforts of ISS to implement the action plan steps identified in audit report #0523. It covers the period June 4, 2005, through March 31, 2006.

Previous Conditions and Current Status

In report #0523, ISS management and City Auditor staff identified several areas that if addressed would decrease (but not eliminate) the likelihood of future virus infections and reduce the impact of infections when they do occur. The areas identified included:

- increasing the number and expertise of ISS staff;
- improving communication;
- implementing network segmentation;
- installing operating system updates in a timely manner;
- implementing automated virus scanning;
- providing computer security training for users and ISS staff; and
- improving business continuity planning throughout all City departments.

A total of six action plan steps were developed to address the areas identified. Of those six steps, five were due for completion as of March 31, 2006. ISS has requested that the sixth action plan step, due June 2006, be amended to be competed March 31, 2007. Table 1 provides a summary of all action steps and their current status.

Table 1
Information System Services Action Plan Steps from Report #0523 due as of March 31, 2006, and Current Status

Action Plan Steps	Current Status
To ensure adequate staffing during times of emergencies.	
• Identify employees in departments other than ISS, from across the City, with strong computer skills, knowledge, and abilities that can be called upon to augment ISS staff in times of emergencies.	✓ A list of employees with strong computer skills, knowledge, and abilities and their contact information has been developed to assist ISS in contacting and recruiting additional staff when needed to address emergency-type situations.

To develop an alternative means of communicating and disseminating information when e-mail is unavailable.	
• Identify or develop an alternative means of communicating important information throughout the City for use when e-mail is no longer available.	✓ The City's telephone system has been identified as the alternative method of disseminating information when e-mail is unavailable. The recent upgrade to the City's telephone system allows voice mail messages to be transmitted to multiple extensions at one time. Minimal testing has been conducted to ensure this process will function as intended when needed.
To complete the segmentation of the City's computer network	
• Continue and complete the process of segmenting the City's computer network	◊ Due to delays in acquiring key computer components necessary to segment the City's computer network, ISS has amended the completion date from June 30, 2006 to March 31, 2007.
To ensure that operating system and application updates are installed and do not impact critical applications.	
• Develop and implement a plan to test operating system and application security updates prior to installation.	◊ While actions have been taken in relation to this step, it has not yet been completed. The final completion date has been amended to March 31, 2007.
• Install operating and application security updates within a reasonable time frame after completion of testing.	◊ The completion of this action plan step is dependent on the completion of the previous step, relating to the development and implementation of plans for the testing of security updates prior to installation. The completion of this step has also been amended to March 31, 2007.
To improve computer security knowledge and awareness for both ISS staff and other computer users throughout the City.	
• Complete development and implementation of plans to increase the awareness of the importance of PC level security.	✓ An on-line course to inform and educate City employee computer users about PC security was developed. The City's Chief Information Officer is in the process of briefing the City's department directors as to the course and asking the directors to ensure all their employees take the on-line training.

Table Legend:

- Issue addressed in the original audit ✓ Issue addressed and resolved ◊ Amended completion date

Conclusion

Of the five action plan steps due March 31, 2006, ISS has completed three steps, and amended the completion date of the remaining two steps to March 31, 2007. In addition, ISS amended the due date of the final outstanding action plan step to March 31, 2007.

We appreciate the cooperation and assistance of the Information Systems Services provided in this audit follow up.

Appointed Official's Response

City Manager:

The ability to ensure that the City's information assets are safe and secure from attack is certainly a priority and I appreciate the follow up by the Office of the City Auditor staff. The virus certainly impacted our work processes, and plans are in place to complete all of the action items documented in this report by March 2007. I would like to thank the Office of the City Auditor and DMA/ISS for their work in this effort.

Copies of this Audit Follow Up or Audit Report #0523 may be obtained from the City Auditor's website (http://talgov.com/auditing/index.cfm), by telephone (850 / 891-8397), by FAX (850 / 891-0912), by mail or in person (City Auditor, 300 S. Adams Street, Mail Box A-22, Tallahassee, FL 32301-1731), or by e-mail (auditors@talgov.com).

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